



# MW96A 配料秤系统

## 技术信息简介

WEIGHFEEDER INSTRUMENT - TECHNICAL INFORMATION

## 莫得威 ModWeigh

### 产品特点...FEATURES

- 优秀的计量及配料控制功能  
FLOWRATE MEASUREMENT AND CONTROL FOR WEIGH FEEDERS
- 可移动 P-Module 芯片卡  
REMOVABLE P-MODULE HOLDS CALIBRATION SETTINGS
- 电机速度控制信号输出  
MOTOR SPEED CONTROL OUTPUT SIGNAL
- 流量数据输出/反馈  
FLOWRATE OUTPUT
- 可计量总累计量  
MATERIAL TOTALISER
- 4 开关量输入  
DIGITAL INPUTS
- 4 开关量输出  
DIGITAL OUTPUTS
- 使用 Modbus 实现数据交换（独立的 RS232 及 RS485 接口）  
MODBUS COMMUNICATIONS (INDEPENDENT RS232 AND RS485 PORTS)
- 系统软件可升级  
FIELD SOFTWARE UPGRADES
- 电源 12-24 Vdc  
12-24VDC POWER SUPPLY
- 系统精度优于 0.01%  
OVERALL ACCURACY BETTER THAN 0.01%

### 变送器外壳类型选择...HOUSING OPTIONS

- MTxG 密封挂壁式 (IP67)  
FIELD HOUSING, RAIL MOUNT
- MT6x 规格 170 x 80 x 70mm

### 可选件...OPTIONS

- ±5V 电击火花保护  
±5V EXCITATION FOR SAFETY BARRIER APPLICATIONS

### 应用 APPLICATION

莫得威 MW96 配料控制系统是用于称量及控制物料流量和累计重量的称量仪器。

A MODWEIGH MW96 WEIGH FEEDER SYSTEM IS USED TO MEASURE AND CONTROL THE FLOWRATE OF MATERIAL CARRIED BY A BELT CONVEYOR.

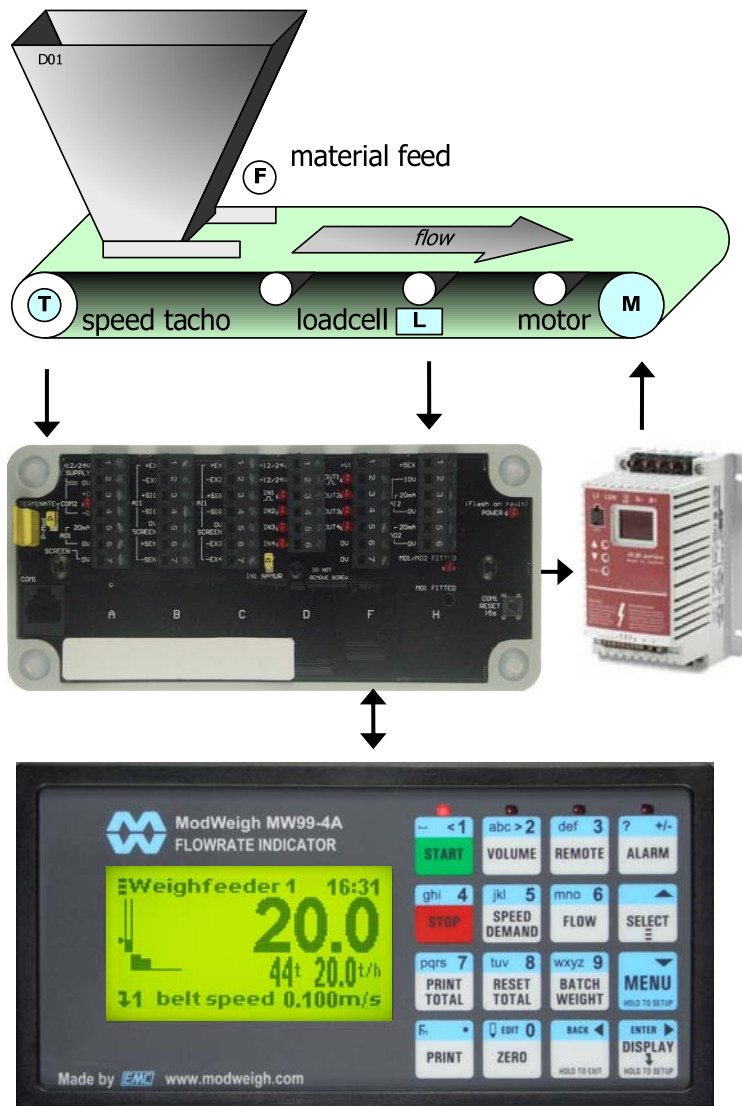
本仪表通过测量皮带载荷及皮带速度来计量物料的瞬时流量，并通过控制皮带速度来调节瞬时流量。

IT MEASURES THE BELT LOADING AND BELT SPEED AND CALCULATES THE MATERIAL FLOWRATE WHICH IT CONTROLS BY VARYING THE BELT SPEED.

### MW99 称重显示器 MW99 WEIGHT INDICATOR

ModWeigh MW99d4 型称重显示器应用于标定系统及为系统提供准确的称量数据显。本称重显示器采用图形显示，结合快捷设置菜单，简单易用。

A MODWEIGH MW99d4 FLOWRATE INDICATOR IS USED TO CALIBRATE THE SYSTEM AND PROVIDE A STATUS DISPLAY OF THE OPERATING SYSTEM. IT HAS A GRAPHICS DISPLAY WITH EASY TO USE MENU SELECTION OF SETTINGS.



# 功能特点

FEATURES

## 基本 BASIC

### 计量单位及数据采集率 UNITS & RESOLUTION

用户可根据需要在列表中选择公制或英制变量（重量等）单位。可调的变量单位数据采集率，例如，100kg 可显示为 0.2kg 的增量。

THE UNITS FOR EACH VARIABLE TYPE (WEIGHT ETC.) CAN BE SELECTED FROM A LIST OF METRIC AND IMPERIAL UNITS. THE RESOLUTION OF EACH VARIABLE TYPE CAN BE ADJUSTED, THIS ALTERS THE COUNT BY E.G 100KG DISPLAYED IN 0.2KG INCREMENTS.

### OIML（国际合法计量组织）设计 OIML DESIGN

本设备按 OIML 认证标准设计制造。

THE INSTRUMENT IS DESIGNED TO OIML STANDARDS.

## 输入 INPUTS

### 开关量输入 IN1..IN8 DIGITAL INPUTS IN1..IN8

开关量输入可进行编程并匹配一系列功能包括“校零”，“打印”等。

THE DIGITAL INPUTS ARE PROGRAMMABLE TO A RANGE OF FUNCTION INCLUDING 'ACQUIRE ZERO', 'PRINT' ETC.

### 直接及动态标定 DIRECT & DYNAMIC CALIBRATION

直接标定是通过使用称重传感器额定量程及灵敏度来标定称重信号。动态标定允许皮带在运行条件下对已知称量段重量(kg)或皮带载荷(kg/m)进行称重标定。此功能特别适用于使用链码标定。

DIRECT CALIBRATION USES THE LOADCELL CAPACITY AND LOADCELL SENSITIVITY TO CALIBRATE THE WEIGHT SIGNAL. DYNAMIC CALIBRATION ALLOWS CALIBRATION OF THE WEIGHT WHILE THE BELT IS MOVING KNOWING THE PLATFORM WEIGHT (KG) OR THE BELT LOADING (KG/M). THIS IS USEFUL WHEN CALIBRATING IS DONE USING CHAINS.

### 称重传感器角落调整 CORNER ADJUSTMENT

此功能可在多达四个称重传感器间进行激励电压调整，以修正不同称重传感器间的灵敏度差异。

THE EXCITATION VOLTAGE CAN BE ADJUSTED ON UP TO FOUR LOADCELLS, ALLOWING DIFFERENCES IN LOADCELL SENSITIVITIES TO BE CORRECTED.

### 流量设定点 FLOWRATE SETPOINT

此设定点是传送带应载的物料流量，处理器将依本地或远程输入设定点进行流量控制。远程模拟信号设定点需要 MO2 选项的支持。

THE SETPOINT IS THE FLOWRATE OF MATERIAL THE BELT CONVEYOR SHOULD BE CARRYING. THE PROCESSOR CAN CONTROL TO THE LOCAL SETPOINT, WHICH IS SET USING THE KEYPAD, OR IT CAN CONTROL TO THE REMOTE SETPOINT. THE OPTION MO2 IS REQUIRED FOR A REMOTE ANALOG SETPOINT.

模拟信号输入 AI2 在 0-20mA 或 0-10V 范围内可进行标定。如果系统未匹配远程设定点功能，此模拟信号输入也可用于其它功能。

THE CALIBRATION OF ANALOG INPUT (AI2) IS FULLY ADJUSTABLE OVER THE RANGE 0-20mA AND 0-10V. IF THE REMOTE SETPOINT IS NOT USED, THE ANALOG INPUT IS AVAILABLE FOR OTHER FUNCTIONS.

### 测速传感器输入 TACHO INPUT

测速传感器用于测量皮带速度及运行状况，其基本标定是通过设置转速计常数来完成的。

THE TACHO INPUT IS USED TO MEASURE THE BELT SPEED AND BELT TRAVEL. BASIC CALIBRATION IS DONE USING A TACHO CONSTANT SETTING.

系统可通过测量一段已知长度皮带在经过某一点所发出的脉冲信号数量对转速计进行标定。其它皮带长度也可以同样方法进行测量。

THE SYSTEM CAN BE USED TO CALIBRATE THE TACHO BY MEASURING THE NUMBER OF PULSES AS A KNOWN LENGTH OF BELT PASSES A POINT. OTHER BELT LENGTHS CAN BE MEASURED IN A SIMILAR MANNER.

### 校零/去皮 ZEROING

空载的皮带重量在经过一个完整的皮带周期后被平均，所得数值被纪录为动态零值。

THE WEIGHT OF THE UNLOADED BELT IS AVERAGED OVER ONE COMPLETE BELT REVOLUTION AND THE RESULTING VALUE IS STORED AS THE DYNAMIC ZERO.

校零功能可以半自动化形式进行。控制仪可通过一项输出信号发出指令，停止物料输送；待皮带上无物料，系统即开始执行零值平均。当校零完成后，系统重新进料，并等待物料输送重量达到正常值，即重新恢复正常计控状态。

THE ZEROING CAN BE SEMI-AUTOMATED BY USING AN OUTPUT SIGNAL TO STOP THE MATERIAL FEED ONTO THE BELT, WAITING UNTIL THE BELT IS EMPTY, PERFORMING THE ZERO AVERAGING, RESTARTING THE FEED AND WAITING UNTIL MATERIAL HAS REACHED THE WEIGH POINT BEFORE RETURNING TO FLOW CONTROL.

零点跟踪功能能够连续监视秤台重量，任何在称量段上小的物料堆积或偏差重量都会被自动清零。此功能确保了当皮带上无物料时，系统纪录为零流量。

AUTO ZEROING CONTINUOUSLY MONITORS THE PLATFORM WEIGHT. ANY SMALL DRIFT IN THE WEIGHT MEASUREMENT OR MATERIAL BUILD UP ON THE WEIGH PLATFORM IS AUTOMATICALLY ZEROED OUT. THIS ENSURES THAT WITH NO PRODUCT ON THE BELT, A ZERO FLOWRATE IS RECORDED.

### 信号过滤 SIGNAL FILTERING

重量信号过滤功能可以在减小机床震动及仪器反应速度间进行调整以取得最佳折衷点。

FILTERING FOR THE WEIGHT CAN BE ADJUSTED TO GET THE OPTIMUM COMPROMISE BETWEEN REDUCTION OF PLANT VIBRATION AND RESPONSE SPEED.

## 内部信号 INTERNAL SIGNALS

### 极限值 LIMITS

最高及最低极限值均可进行设置，编程及匹配操作其它内部信号。

THE HIGH AND LOW LIMITS HAVE ADJUSTABLE SETPOINTS WHICH MAY BE PROGRAMMED TO OPERATE ON ANY INTERNAL SIGNAL.

### 批量模式 BATCHING

本系统可用于处理物料批量，当批量重量经过称重平台即停止传送带输送。此外，批量校正功能能够通过估计重量的方法，在目标重量达到前停止传送带以确保得到准确的批量。

THE SYSTEM CAN BE USED TO BATCH OUT A DESIRED WEIGHT BY STOPPING THE FEEDER WHEN THE BATCH WEIGHT HAS BEEN TOTALISED. A PRE-ACT IS AVAILABLE TO COMPENSATE FOR OVERRUN.

### 事件收集 EVENT COLLECTION

系统可收集处理事件并提供给外部设备（PLC 或其它）。

PROCESS EVENTS ARE COLLECTED FOR OPERATION WITH EXTERNAL EQUIPMENT (PLCS ETC.)

循环调控 LOOP CONTROL

系统处理器能对实际流量及设定点进行比较，PI 控制技术能自动控制马达速度命令信号以保证实际流量满足设定点要求。预给料功能保证了系统能快速达到流量设定点要求，同时也能对设定点的改变作出迅速反应。

THE PROCESSOR COMPARES THE FLOWRATE WITH THE SETPOINT. A PROPORTIONAL/INTEGRAL (PI) CONTROL TECHNIQUE WITH FEED FORWARD ALTERS THE MOTOR SPEED DEMAND SIGNAL TO MAINTAIN THE FLOWRATE AT SETPOINT. FEED FORWARD ALLOWS THE SYSTEM TO REACH THE DESIRED SET FLOWRATE VERY QUICKLY AND ALSO TO RESPOND TO CHANGES IN SETPOINT RAPIDLY.

容积计量模式 VOLUMETRIC MODE

在一般情况下控制仪运行重量称量模式，自动调节速度命令信号以达到流量设定点要求。NORMALLY THE CONTROLLER OPERATES GRAVIMETRICALLY AND AUTOMATICALLY ADJUSTS THE SPEED DEMAND SIGNAL TO REACH THE REQUIRED FLOWRATE SETPOINT.

在容积计量模式下，速度命令经由人工设定以控制流量。IN VOLUMETRIC MODE, THE SPEED DEMAND IS SET MANUALLY TO CONTROL THE FLOWRATE.

高级控制设置 ADVANCED CONTROL SETTINGS

预给料功能设置可根据设备延迟（传送延迟）进行调整及修正。设置比率可根据设定点信号乘以控制比率百分比获得。FEED FORWARD SETTINGS CAN BE ADJUSTED AND CORRECTIONS FOR PLANT DELAYS (TRANSPORT DELAY) CAN BE MADE. A RATIO SETTING IS AVAILABLE TO MULTIPLY THE SETPOINT SIGNAL BY A PERCENTAGE FOR RATIO CONTROL APPLICATIONS.

记忆存储 MEMORY STORAGE

此功能可对一组设定值进行存储，并从存储中恢复设定值。此功能可存储不同的设定值用于不同的用途，系统可提供 20 个存储单元，每个存储单元可存储多达 4 个设定值。ALLOWS A GROUP OF SETTINGS TO BE STORED OR RECALLED FROM MEMORY. THIS CAN BE USED FOR EXAMPLE TO STORE SETTINGS FOR DIFFERENT PRODUCTS. THERE ARE 20 MEMORY LOCATIONS WITH UP TO 4 SETTINGS IN EACH.

物料累计量 MATERIAL TOTAL

系统处理器连同累计量计数器共同计算经过系统的物料总量。此累计量可清零，累计量脉冲输出可驱动外接计数器。累计量计数具备低流量切断功能，确保了过低流量不会导致错误计数，累计总重量数据保留不受断电影响。THE PROCESSOR INCORPORATES A TOTALISER WHICH TOTALISES THE WEIGHT OF MATERIAL THROUGH THE SYSTEM. THE TOTALISER CAN BE RESET TO ZERO. A PULSE OUTPUT IS AVAILABLE TO OPERATE EXTERNAL COUNTERS. A LOW FLOW CUTOFF ENSURES THAT LOW FLOWS DO NOT CAUSE FALSE COUNTS. THE TOTAL IS RETAINED AFTER A POWER FAILURE.

累计量计数器位数可设置为 5，6，7 或 8 位。THE TOTALISER CAN BE SET TO OPERATE WITH 5, 6, 7 OR 8 DIGITS.

输出 OUTPUTS

速度命令 SPEED DEMAND

模拟输出速度命令信号用于驱动外置电机变频器，从而达到控制皮带速度目的。AN ANALOG SPEED DEMAND OUTPUT SIGNAL IS USED TO DRIVE AN EXTERNALLY CONNECTED MOTOR CONTROLLER TO VARY THE BELT SPEED.

物料流量 MATERIAL FLOWRATE

模拟输出流量信号可连接至其它设备。AN ANALOG FLOWRATE OUTPUT SIGNAL IS AVAILABLE FOR CONNECTION TO OTHER INSTRUMENTS.

模拟信号输入/输出缩放比例 ANALOG I/O SCALING

模拟输出信号可在 0 至 20mA 范围内进行调整。当使用 0 至 20mA 范围时，为达到相对 0 值，输出信号可略为负毫安。电压输出信号可通过在输出上连接电阻器获得。THE ANALOG OUTPUT RANGE CAN BE ADJUSTED OVER THE FULL 0 TO 20mA RANGE. THE OUTPUT WILL DRIVE TO A SLIGHT NEGATIVE mA, ALLOWING A LIVE ZERO TO BE ACHIEVED WHEN USING A 0 TO 20mA RANGE. A VOLTAGE OUTPUT IS EASILY PRODUCED BY CONNECTING A RESISTOR TO THE OUTPUT.

模拟输出信号可在任意仪器内部信号中选择，例如，重量，流量等。IN ADDITION THE ANALOG OUTPUT SIGNAL IS SELECTABLE TO COME FROM ANY INTERNAL SIGNAL IN THE INSTRUMENT E.G WEIGHT, FLOWRATE ETC.

开关量输出 OUT1..OUT8 DIGITAL OUTPUTS

开关量输出功能能够进行编程以运行任意内部信号。这些信号包括了开关量输入状态，运行条件（运行，暂停等）及检测任何故障情况。此功能使得仪器接驳其它系统变得更简单。THE DIGITAL OUTPUTS ARE PROGRAMMABLE TO OPERATE FROM ANY INTERNAL SIGNAL. THESE SIGNALS INCLUDE THE DIGITAL INPUT STATES, STATUS CONDITIONS (RUNNING, PAUSED ETC) AND ANY FAULT CONDITIONS THAT ARE DETECTED. THIS MAKES IT EASY CONNECT INTO OTHER SYSTEMS.

通信 & 显示 COMMUNICATIONS & DISPLAY

数据交换 COMMS

本仪器提供独立的 RS232 及 RS485 通信接口，用于连接变送器与显示器，或其它设备。例如，ASCII 输出协议可驱动打印机或 Modbus 进行更高层次的交互式通信，波特率及节点地址都可进行编程。RS232 AND RS485 PORTS ARE AVAILABLE. THESE ARE USED TO CONNECT DISPLAY TO TRANSMITTER AND ALSO TO CONNECT TO OTHER SYSTEMS. THE PROTOCOL IS EITHER ASCII OUTPUT FOR EXAMPLE TO DRIVE A PRINTER OR MODBUS FOR INTERACTIVE COMMUNICATIONS. BAUD RATES AND NODE ADDRESSES ARE PROGRAMMABLE.

打印及设计功能 PRINTOUTS & DESIGNS

打印功能可通过现场操作或预置打印时间与周期来实现。数据能够连续输出以作为数据收集用途。打印数据经由 COM1 RS232 接口输出，打印内容可通过打印设计功能进行编辑。PRINTOUTS CAN BE TRIGGERED BY A KEY PRESS OR SET UP TO OCCUR AT SET TIMES DURING THE DAY OR WEEK. DATA MAY ALSO BE OUTPUT CONTINUOUSLY FOR DATA COLLECTION PURPOSES. DATA IS OUTPUT ON THE COM1 RS232 PORT. THE CONTENT OF THE PRINTOUTS IS FULLY PROGRAMMABLE USING DESIGNS.

设计功能可被用于自定义打印，也可用来执行算术计算。设计语言也包括更高级的编程条款。DESIGNS ARE PROGRAMS USED TO CUSTOMISE PRINTOUTS, BUT CAN ALSO BE USED TO PERFORM ARITHMETIC CALCULATIONS. THE DESIGN LANGUAGE ALSO CONTAINS CONDITIONAL TERMS FOR MORE ADVANCED PROGRAMMING.

显示界面自定义 DISPLAY CUSTOMISATION

键锁功能可被用来防止未经许可的仪器操作及限制进入操作菜单。可对任意键进行密码锁定，以防止未经授权的非授权操作。当进行按键操作时，系统也将提醒操作员进行操作确认。操作菜单可增添额外设置或操作信号以满足用户自定义要求。LOCKS MAY BE SET TO PREVENT UNAUTHORISED USE OF THE OPERATOR KEYS AND RESTRICT ENTRY TO THE OPERATOR MENU. THE KEYS ARE INDIVIDUALLY LOCKABLE AND OPTIONALLY A PASSCODE CAN BE USED TO ALLOW AUTHORISED OPERATORS TO USE THE KEYS. ALTERNATIVELY A CONFIRMATION OF THE KEY ACTION CAN BE REQUESTED. THE OPERATOR MENU CAN BE CUSTOMISED TO MAKE ADDITIONAL SETTINGS OR SIGNALS AVAILABLE TO THE OPERATOR.

显示器显示内容自定义适用于不同现场要求，显示屏既可显示全部参数，也可仅显示基本参数。  
THE CONTENTS OF THE MAIN DISPLAY CAN BE SET TO SUIT ANY CONDITION, FROM A COMPREHENSIVE DISPLAY SHOWING ALL OPERATING PARAMETERS TO A SIMPLE DISPLAY SHOWING THE BASIC SIGNALS.



与电脑连接 COMPUTER CONNECTIVITY

ActiveX 控制组件使得 ModWeigh 系统与计算机间的通讯变得更加简单，典型应用是编程及搜集 VB 程序来实现计算机控制。

AN ACTIVEX CONTROL IS AVAILABLE TO ALLOW PROGRAMMERS TO EASILY COMMUNICATE WITH A MODWEIGH INSTRUMENT. TYPICALLY THIS CAN BE USED WITH A VISUAL BASIC PROGRAMME TO COLLECT AND WRITE DATA TO THE CONTROLLER.

ModWeigh 输入/输出

以下表格标示了各输入及输出功能。  
THE FUNCTION OF EACH INPUT AND OUTPUT IS SHOWN IN THE TABLE BELOW.

用户可对每项输入及输出功能进行编程。  
THE FUNCTIONS OF EACH INPUT OR OUTPUT ARE USER PROGRAMMABLE.

		输入/输出功能所匹配的不同硬件类型（及可选件）				
		MT2x	MT4x	MT6x	MT8x	MW99dx
模 拟 量 输 入	AI1 (称重传感器)	●	●	●	●	
	AI2 (4-20mA 0-10V)			MO2	MO2	
模 拟 量 输 出	AO1 (4-20mA)	●	●	●	●	
	AO2 (4-20mA)			MO2	MO2	
开 关 量 输 入	IN1 脉冲输入	●	●	●	●	
	IN2 获取零值			●	●	
	IN3 运行			●	●	
	IN4 总量清零			●	●	
	IN5 打印				●	
	IN6 打印总量				●	
	IN7 停止				●	
	IN8 暂停				●	
开 关 量 输 出	OUT1 脉冲输出	●	●	●	●	
	OUT2 流量过低	●	●	●	●	
	OUT3 运行马达			●	●	
	OUT4 无故障备妥信号			●	●	
	OUT5 称重故障				●	
	OUT6 皮带速度故障				●	
	OUT7 进物料				●	
	OUT8 报警提示				●	
接口格式	COM1 (RS232)	●	●	●	●	●
	COM2 (RS485)	●	●	●	●	●

技术规格说明

SPECIFICATIONS

称重传感器输入 AI1 LOADCELL INPUT

输入范围 INPUT RANGE	±4 mV/V (0-32mV)
激励 EXCITATION	8 Vdc ±10 %, 250 mA 最大电流 (MAXIMUM CURRENT)
信号处理率 SIGNAL PROCESSING RATE	100 Hz (重量采集时间设定≤ 0.5 s) (RESPONSE TIME SETTING)

输入灵敏度 INPUT SENSITIVITY	0.5 $\mu$ V/最大分度 (DIVISION MAXIMUM)
零值范围: ZERO RANGE	$\pm 30$ mV.
调零温度系数 ZERO DRIFT	$\pm 0.02$ $\mu$ V+0.0005 % 典型恒载/°C (OF DEADLOAD/°C TYPICAL)
满量程温度系数 SPAN DRIFT	$\pm 0.0005$ %/°C 典型 (TYPICAL)
非直线性误差 NON-LINEARITY	<0.002 % 之 FS (OF FS)
信号输入干扰系数 INPUT NOISE	0.15 $\mu$ Vp-p 典型 (TYPICAL)
滤波设置 FILTERING	0.04 s to 32.0 s 可调重量采集时间 (RESPONSE TIME ADJUSTABLE)
输入阻抗 INPUT IMPEDANCE	>1000 M $\Omega$ .
输入电阻灵敏度 SENSE INPUT IMPEDANCE	>100 k $\Omega$
电压灵敏度范围 SENSE VOLTAGE RANGE	3-10 V

**模拟量输入 AI2** ANALOG INPUT

4-20mA 输入电阻 4-20mA INPUT RESISTANCE	47 $\Omega$
0-10V 输入电阻 0-10V INPUT RESISTANCE	> 1 M $\Omega$
绝缘: ISOLATION	不绝缘, 所有 0V 接线端都是通用的 NOT ISOLATED, ALL 0V TERMINALS ARE COMMON

**模拟量输出 AO1 & AO2** ANALOG OUTPUTS

输出范围 OUTPUT RANGE	0 to 20 mA (-90 $\mu$ A to 21 mA, includes standard 4-20mA)
最大负载 MAXIMUM LOAD	1000 $\Omega$ @ 24 V 电源供应, 500 $\Omega$ @ 12 V (SUPPLY)
数据采集率 RESOLUTION	0.4 $\mu$ A
重量采集时间 RESPONSE TIME	称重传感器反应时间设置 + 20 ms (LOADCELL RESPONSE TIME SETTING)
电压输出 VOLTAGE OUTPUT	使用外置电阻器将电流转换为电压。 USE AN EXTERNAL RESISTOR TO CONVERT mA TO VOLTS. 例如, 500 $\Omega$ 电阻可将 20mA 转换为 10V。 FOR EXAMPLE 500 $\Omega$ GIVES 10 V AT 20 mA.
非直线性误差 NON-LINEARITY	< 0.01 %
温度系数 DRIFT	< 1 $\mu$ A/°C.

**开关量输入 IN1..IN8** DIGITAL INPUTS

高电压 HIGH VOLTAGE	> 8 V
低电压 LOW VOLTAGE	< 4 V
最大电压 MAXIMUM VOLTAGE	32 V
输入负荷 INPUT LOAD	3200 $\Omega$ to 4800 $\Omega$
输入类型 INPUT TYPE	PNP output sensors
<b>IN1</b> 输入频率 FREQUENCY INPUT	
最大范围 MAXIMUM RANGE	0.01Hz to 4 kHz
典型操作范围 TYPICAL OPERATING RANGE	10 to 1000 Hz
脉冲功率循环 PULSE DUTY CYCLE	20 % to 80 %
频率改变率 RATE OF FREQ CHANGE	< 20% per ms
<b>IN1</b> 设置为 NAMUR 测速传感器 SET TO NAMUR	
接线端电压 TERMINAL VOLTAGE	8 V
开关临界值 SWITCHING THRESHOLD	1.55 mA

滞后量 HYSTERESIS	0.2 mA
Namur 测速传感器故障 NAMUR FAULT	< 0.1 mA or > 6 mA
开关量输出 OUT1..OUT8 DIGITAL OUTPUTS	
最大输出电流 MAX OUTPUT CURRENT	0.25 A
电源电压 SUPPLY VOLTAGE	8 Vdc < +V1 and +V2 < 32 Vdc
OUT1 输出频率 FREQUENCY OUTPUT	
最大频率 MAX FREQUENCY	500 Hz
功率循环 DUTY CYCLE	50 % ±20 % (f > 0.5 Hz)
最大输出脉冲时间 MAX OUTPUT PULSE TIME	1000 ms (f < 0.5 Hz)

接口格式 COM1 & COM2 COMMUNICATIONS	
COM1 连接 COM1 INTERFACE	RS232
COM1 同步交换 COM1 HANDSHAKE	CTS 能够使用 CAN BE ENABLED
COM2 连接 COM2 INTERFACE	RS485
波特率 BAUD RATES	9600, 19,200, 38,400, 57,600 and 115,200
设置 SETTINGS	8 data bits, no parity, 2 stop bits (8-N-2)
协议 PROTOCOL	Modbus RTU

基本规格 GENERAL

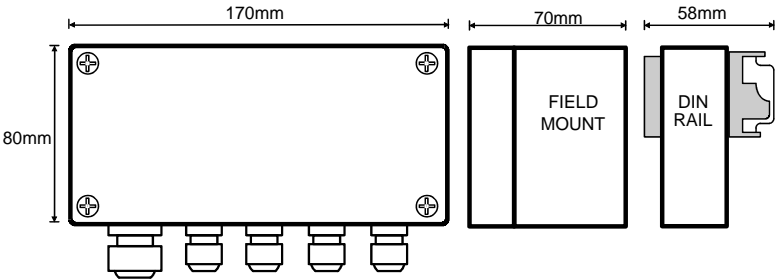
外壳材料 HOUSING	含聚碳酸酯，防紫外线的塑料。 POLYCARBONATE UV RESISTANT.
工作温度 OPERATING TEMPERATURE	-10 to 45 °C
电源电压 SUPPLY VOLTAGE	10 to 32 Vdc
电源（变送器） POWER (TRANSMITTER)	2.5 VA @ 100 mA 称重传感器激励电流 LOADCELL EXCITATION CURRENT
电源（显示器） POWER (DISPLAY)	4 VA @ 250 mA 称重传感器激励电流 LOADCELL EXCITATION CURRENT
	2 VA

仪表尺寸 DIMENSIONS

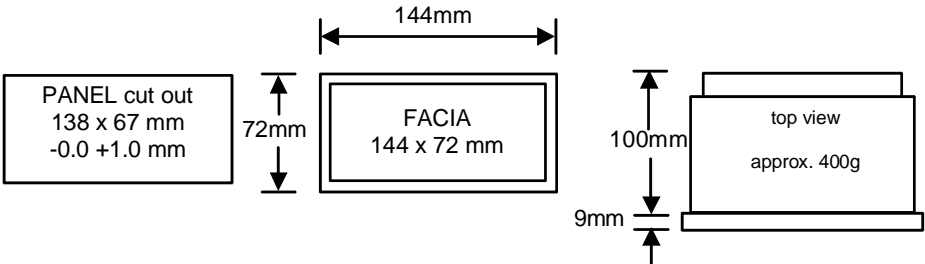
有一系列不同尺寸变送器外壳可供选择，所有外壳均可选配密封式或挂壁式安装架。  
THERE IS A RANGE OF TRANSMITTER CONTAINER SIZES AVAILABLE. EACH IS AVAILABLE EITHER FOR FIELD MOUNTING OR RAIL MOUNTING.

显示器设计为控制箱安装。  
THE DISPLAY IS DESIGNED FOR PANEL MOUNTING.

MT6x 变送器 MT6x TRANSMITTER



MW99 显示器 MW99 DISPLAY





线路连接 CONNECTIONS

连接原理 CONNECTION PRINCIPLES

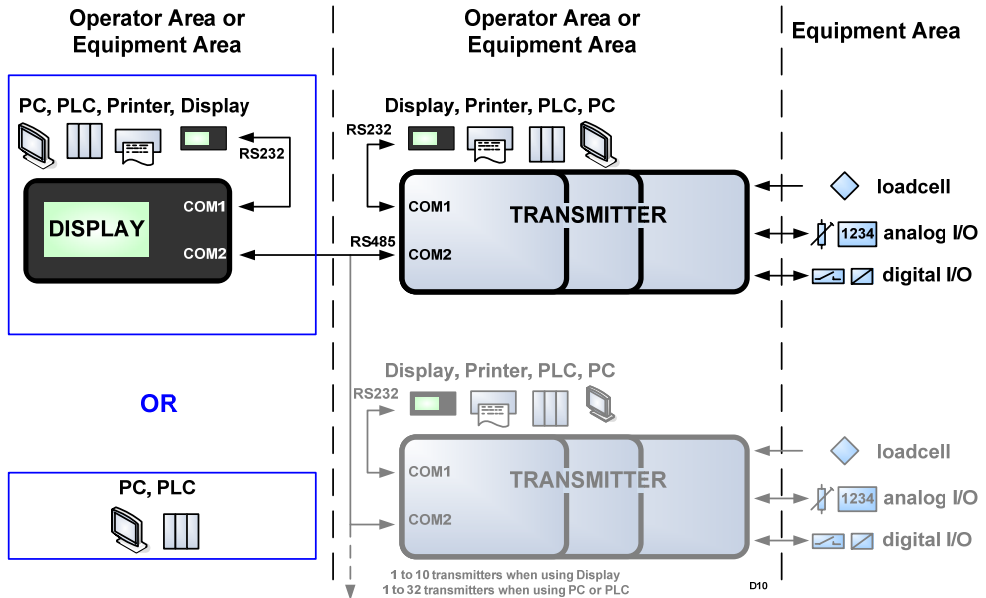
ModWeigh 仪器可以多种不同形式安装以适应不同操作环境。显示器通常置于方便操作员操作的位置，变送器可被安装于现场以减少连线或以常见方式与显示器安装在一起。

MODWEIGH INSTRUMENTS CAN BE CONFIGURED IN MANY DIFFERENT WAYS TO SUIT ANY GIVEN APPLICATION. THE DISPLAY IS NORMALLY LOCATED TO SUIT AN OPERATOR. THE TRANSMITTER CAN BE LOCATED IN THE FIELD TO REDUCE FIELD WIRING OR CAN BE LOCATED WITH THE DISPLAY FOR A MORE CONVENTIONAL APPROACH.

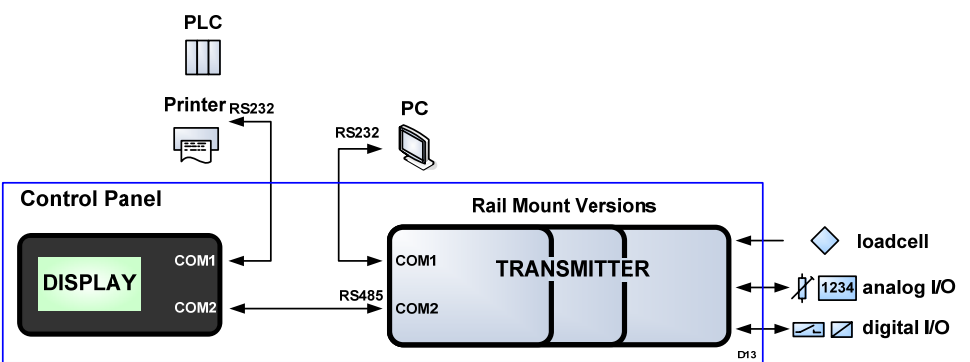
当一台变送器适配一台显示器时，典型连接是使用 COM2（RS485 接口）进行连接。

WITH ONLY ONE TRANSMITTER AND ONE DISPLAY, THE UNITS ARE TYPICALLY CONNECTED USING COM2 (THE RS485 PORT) OF EACH INSTRUMENT.

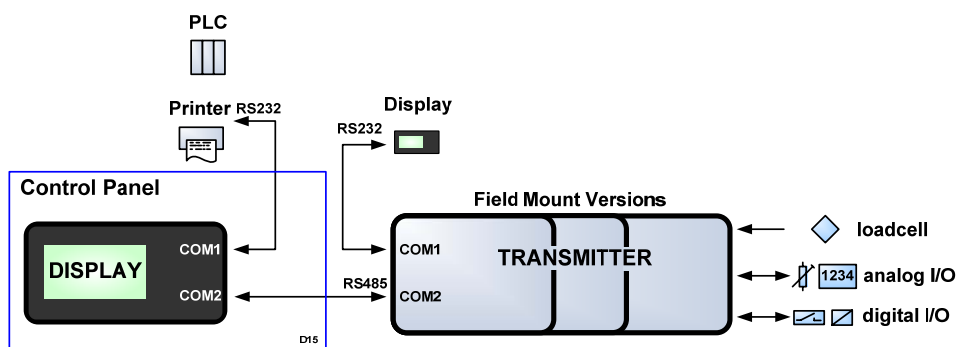
普通连接原理 GENERAL CONNECTION PRINCIPLES



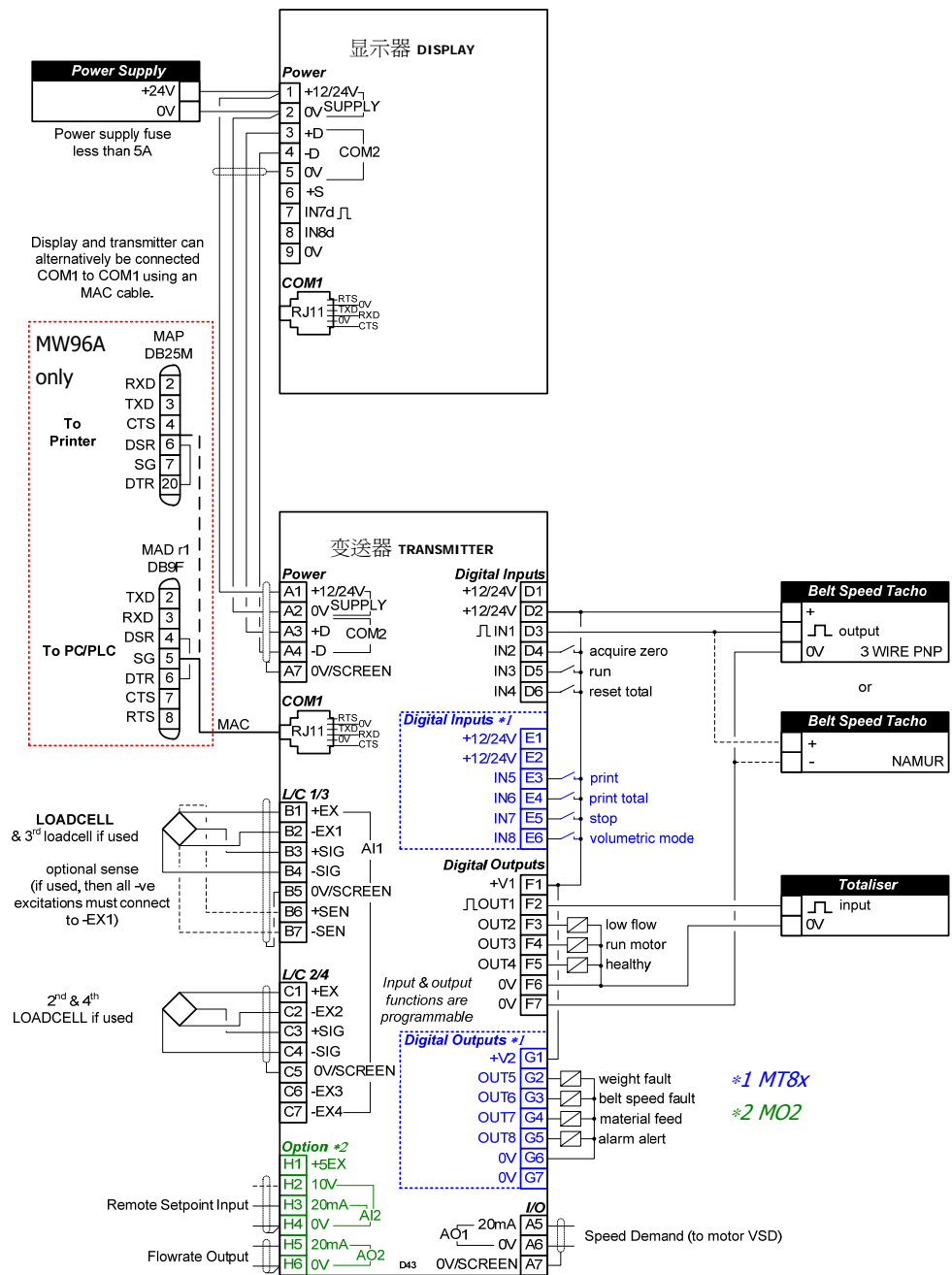
控制箱内置变送器 TRANSMITTER IN CONTROL PANEL



变送器安装于现场 TRANSMITTER WITH EQUIPMENT



## 连接电路图 CONNECTION DIAGRAM




- 所有信号传输电缆须与电力供应电缆分开配线 KEEP ALL WIRING SEPARATED FROM MAINS WIRING
- 在标明处使用屏蔽电缆 USE SHIELDED CABLE WHERE INDICATED
- 应使用 RUN 运行输入或 RUN MOTOR 运行马达输出 RUN INPUT OR RUN MOTOR OUTPUT SHOULD BE USED
- 所有的 0V 接线端都是内部通用的 ALL 0V TERMINALS INTERNALLY CONNECTED



## 订 货 SYSTEM ORDERING

标准的 ModWeigh 系统是由一组不同的部件所组成。可以不同方式组成系统，但大部分应用都是从以下标准系统配置中进行选择。在订货时，须说明系统订货编号；如单独订购组件，则须说明所需部件名称。

A ModWeigh system is a group of ModWeigh parts that together form the system. Many possible systems can be created, but most applications will use one of the systems listed below. When ordering, just specify the system order code. To create a custom system, specify the individual components required.

SYSTEM ORDER CODE 系统订货编号	
<b>配料秤系统</b> 2 loadcell terminals <sup>1</sup> , 4 digital inputs/4 digital outputs & display  MW96A, MT6x, MO2, MW99d4, MAC field housing, rail mount    密封挂壁式 <b>MW96A+S3,CH,MC,MT6G,MO2,MW99d4,MAC</b>	

## 订购部件 PARTS ORDERING

以下是莫得威系统的部件订货编号列表。

Following is a list of order codes for the individual parts of a ModWeigh system.

变送器订货编号(及选配件)列举如下。显示器及其它附件(连线等)需另下订单。

The transmitter order code (and options) are shown below. The display is ordered separately, and any accessories (cables etc).

建立并标定一个完整的称重控制系统，显示器是必需的。典型的订货清单是 **MW96A+S3,CH,MC,MT6R,MO2,MW99d4,MAC,MAD** 提供了 P-Module 芯片卡，变送器，4-20mA 远程设定点输入及 4-20mA 流量输出，显示器，电脑连线及转换器。

<b>P-Module 芯片卡</b> 	<b>产品模块</b> P-Module order code	
	配料秤系统	<b>MW96A+S3</b>
<b>Special Options</b>	<b>特殊选项</b> special options order code list	
	Chinese manuals	,CH
	Korean manuals	,KO
	No manuals	,NM
	Manufacturing certificate	,MC
<b>变送器</b> 	<b>变送器输入/输出</b> 变送器订货编号	
	2 个称重传感器接线端，4 个开关量输入/4 个开关量输出	6
	2 个称重传感器接线端，8 个开关量输入/8 个开关量输出	8
	<b>变送器外壳</b>	
	挂壁式	R
	密封式	F
	密封挂壁式安装	G
		,MT
	<b>变送器附加选项</b> 变送器附加选项编号列表	
	模拟量输入/输出 AI2/AO2(仅限 MT6x & MT8x) <sup>2</sup>	,MO2
	±5Vdc 称重传感器激励(电击火花保护) <sup>3</sup>	,MOE1
<b>显示器</b> 	<b>显示器</b> 显示器订货编号	
	流量显示器(2 个开关量输入)	,MW99d4

<sup>1</sup> Includes 4 loadcell excitations for corner adjustment

<sup>2</sup> 可于现场单独安装或与变送器一起订购。

<sup>3</sup> 必须与变送器一起订购(不能于现场安装)。

附件



附件		附件单
RJ12 连线 2m (COM1 连线)		,MAC
RJ12 9 针 D-connector 适配器(ModWeigh 与 PC 连接)		,MAD
RJ12 25 针 D-connector 适配器(ModWeigh 与 打印机连接)		,MAP

零件及备件



零件及备件	
变送器	
MT2F/MT2G field mount lid	MCL2x
MT4F/MT4G & MT6F/MT6G field mount lid	MCL4x
MT8F/MT8G field mount lid	MCL8x
显示器	
Display without label	MW99dx
Flowrate Indicator display label	LBL230-6
Pair of display mounting clips	BRK61P
Screw connector for MW99 power connector	TS17-9

其它 ModWeigh 产品 OTHER MODWEIGH PRODUCTS

**MW61 静态秤系统-称重传感器变送器/显示器。**适用于平台秤，容器称量及大部分一般称量用途。  
WEIGHER SYSTEMS – LOADCELLS TRANSMITTER/INDICATORS. SUITABLE FOR SCALES, VESSEL WEIGHING AND MOST GENERAL WEIGHING APPLICATIONS.

**MW93 变重秤系统-适用于失重或增重流量控制系统。**  
WEIGHT CHANGE SYSTEMS – FOR LOSS-IN-WEIGHT AND GAIN-IN-WEIGHT FLOW CONTROL SYSTEMS.

**MW94 冲板流量计系统-适用于测量连续流量的冲板计量系统。**  
IMPACT WEIGHER SYSTEMS – IMPACT WEIGHER PROCESSOR FOR CONTINUOUS FLOWRATE MEASUREMENT.

**MW95 皮带秤系统-适用于连续性皮带物料称量系统。**  
BELT WEIGHER SYSTEMS – BELT WEIGHER PROCESSOR FOR CONTINUOUS FLOWRATE MEASUREMENT.

联系方式: CONTACT DETAILS

NEW ZEALAND  
EMC INDUSTRIAL GROUP LTD  
56 Tarndale Grove, Albany, North Shore, Auckland 0632  
PO Box 101 444, North Shore, Auckland 0745, New Zealand  
Phone +64-9-415 5110, Fax +64-9-415 5115  
Email sales@emc.co.nz                      Web www.emc.co.nz

CHINA  
Modweigh 新西兰（莫得威）New Zealand Contact:  
TEL : 136 0026 4320  
Email sales@modweigh.com.cn Web www.modweigh.com.cn

由于产品改进，实际功能可能与简介书有所差异。  
AS WE ARE CONTINUOUSLY IMPROVING OUR PRODUCTS, CHANGES TO THIS SPECIFICATION MAY OCCUR WITHOUT NOTICE.  
(g0,g1,g2,g3,g4,g5,g6,g7,g8,g9,g10,g11,g12,g13,g14,g15, v1,v2,v3,v4,)